



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,830	09/26/2006	Takeshi Nakamura	M1071.1960	2884
32172	7590	04/05/2007	EXAMINER	
DICKSTEIN SHAPIRO LLP			PENDLETON, DIONNE	
1177 AVENUE OF THE AMERICAS (6TH AVENUE)			ART UNIT	PAPER NUMBER
NEW YORK, NY 10036-2714			2615	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/05/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/567,830	NAKAMURA, TAKESHI	
	Examiner	Art Unit	
	Dionne H. Pendleton	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 26 September 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-42 is/are pending in the application. *Annealed*
 4a) Of the above claim(s) 1-18 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 19-42 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 9/26/2006 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 2/10/06
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date: _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. **Claims 27 and 36** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In *lines 4-5*, the claim recites "the second flow plate having a wall tapered inwardly in the sound wave emission direction." However, as shown in **Figure 1a**, the second flow plate **12** has a wall tapered inwardly in opposition to the sound wave emission direction. Correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 19,20,24,28,29,33,37 and 40** are rejected under 35 U.S.C. 102(b) as being anticipated by JP 50-42838.

Regarding claim 19,

In the Figure provided in the right column, bottom, JP 50-42838 teaches a diffuser **21** for placement in front of a sound wave emission side of a sound source (see coil and

bobbin arrangement), the diffuser comprising: a flow plate **21** positioned along a sound wave emission direction of the sound source, the flow plate having a wall tapered inwardly in the sound wave emission direction.

Regarding claim 20,

JP 50-42838 teaches that the flow plate **21** is a tapered cone shape.

Regarding claim 24,

JP 50-42838 teaches that the flow plate **21** includes at least two spaced apart plates (*shown*) inclined towards each other.

Regarding claim 28,

JP 50-42838 teaches a diffuser for placement in front of a sound wave emission side of a sound source, the diffuser comprising: a flow plate **21** positioned along a sound wave emission direction of the sound source(*see coil and bobbin arrangement*), the flow plate having a first opening (*shown*) proximal to the sound source and a second opening (*shown*) distal from the sound source, the first opening being larger than the second opening.

Art Unit: 2615

Regarding claim 29,

JP 50-42838 teaches the diffuser as claimed in claim 28, wherein the flow plate **21** is a tapered cone shape.

Regarding claim 33,

JP 50-42838 teaches the diffuser as claimed in claim 28, wherein the flow plate **21** includes at least two spaced apart plates (*shown*), inclined towards each other.

Regarding claim 37,

JP 50-42838 teaches a speaker comprising: a sound source (see *coil and bobbin arrangement*), having a sound wave emission side; and a diffuser **21** according to claim 19 located in front of the sound wave emission side of the sound source.

Regarding claim 40,

JP 50-42838 teaches a speaker comprising: a sound source (see *coil and bobbin arrangement*), having a sound wave emission side; and a diffuser **21** according to claim 28 located in front of the sound wave emission side of the sound source.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 21-23,25,26,30-32 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 50-42838 in view of Lee (US 6,389,144).

Regarding claims 21 and 30,

JP 50-42838 teaches the diffuser as claimed in claims 19 and 28, wherein the flow plate is an inner flow plate. JP 50-42838 fails to teach that the diffuser further comprises an outer flow plate positioned along the sound wave emission direction.

In **Figure 3**, Lee teaches a diffuser comprising an inner plate **32** and outer flow plate **13** positioned along the sound wave emission direction.

It would have been obvious for one of ordinary skill in the art at the time of the invention to alter the JP 50-42838 device per the teachings of Lee, for the purpose of enhancing the directivity of the sound dispersal unit.

Regarding claims 22 and 31,

JP 50-42838 teaches the diffuser as claimed in claims 21 and 30, wherein the inner flow plate **21** is a tapered cone.

Regarding claims 23 and 32,

The combined disclosures of JP 50-42838 and Lee teach the diffuser **21** as claimed in claim 22 and 31, wherein the outer flow plate **13** (*of the Lee reference*) has a first opening proximal to the sound source **20** and a second opening **S2** distal from the sound source; whereas substituting the taper cone **21** of JP 50-42838 provides that the first opening is smaller than the second opening.

Regarding claims 25 and 34,

JP 50-42838 teaches the diffuser as claimed in claims 21 and 30, wherein the inner flow plate (**21**) includes at least two spaced apart plates (*shown*), inclined towards each other.

Regarding claims 26 and 35,

Lee teaches that the outer flow plate **13** includes at least two spaced apart plates. Lee fails to clearly teach that the outer flow plates are inclined away from each other.

Art Unit: 2615

However, it would have been obvious for one of ordinary skill in the art at the time of the invention to make wider or more narrow the angle of the outer plates, dependent upon the desired area of the sound field.

4. **Claims 38,39,41 and 42** are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 50-42838 in view of JP60-167494.

Regarding claims 38 and 41,

JP 50-42838 teaches the invention as claimed in claims 37 and 40. JP 50-42838 does not clearly teach a protective net disposed in front of the sound wave emission side of the sound source, the diffuser being fixed to the protective net.

In **Figure 1**, JP60-167494 appears to teach a protective net **8** in front of a sound source, wherein the means for dispersing sound **9** is affixed to the net. It would have been obvious for one of ordinary skill in the art at the time of the invention to alter the JP 50-42838 device per the teachings of JP60-167494, for the purpose of protecting the sound emission source from potentially damaging debris.

Regarding claims 39 and 42,

JP60-167494 teaches that the sound dispersal means 9 is fixed in front of the protective net, behind the protective net, or both in front of and behind the protective net.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne H. Pendleton whose telephone number is 571-272-7497. The examiner can normally be reached on 9-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

D. Pendleton



VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800